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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,649	12/30/2004	Jan Hoogerbrugge	NL02 0575 US	7853
65913	7590	11/13/2007		
NXP, B.V. NXP INTELLECTUAL PROPERTY DEPARTMENT M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131			EXAMINER MEONSKE, TONIA L	
			ART UNIT 2181	PAPER NUMBER
			NOTIFICATION DATE 11/13/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

## Office Action Summary

Application No.

10/519,649

Applicant(s)

HOOGERBRUGGE, JAN

Examiner

Tonia L. Meonske

Art Unit

2181

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. In view of the Appeal Brief filed on August 20, 2007, PROSECUTION IS HEREBY REOPENED. A new rejection is set forth below.
2. To avoid abandonment of the application, appellant must exercise one of the following two options:
  - (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
  - (2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.
3. A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. In claims 1, 6, 7, and 8, the recitation of "a connection bus (4) connecting said processors (1) and said cache memory units (2)" is used. It is unclear as to whether the connection is meant to connect the processors to the cache units or the cache units to cache units, etc.

7. All other claims are rejected for its dependencies.

8. Claims 1, 6, 7, and 8 recite the limitation "said connection line (4)". There is insufficient antecedent basis for this limitation in the claim.

9. Claim 10 is rejected on the grounds that it is unclear whether the program is executed on a computer. The recitation that "if said methods are executed by said computer" is vague and indefinite.

***Claim Rejections - 35 USC § 101***

10. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

11. Claim 10 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 10 appears to be drawn to a computer program per se without the inclusion of the program being stored on a medium.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1-4, 6-8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engel.

14. As per **claim 1**, Engel discloses a multi-processor computer system comprising  
a. at least two processors (1) for parallel execution of processes (See abstract: An alternate embodiment details the peripheral device be an unit processor in a multiprocessor system.).

15. Engel has not specifically taught at least two cache memory units, each being associated with and connected to a separate processor. However, caches were well known to speed up the retrieval of data so that data does not need to be retrieved in a slow manner by going to the main memory off chip. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the computer system of Engel comprise at least two cache memory units, each being associated with and connected to a separate processor, for the desirable purpose of speeding up the retrieval of data.

16. The system of Engel having caches yields the following limitations in the claimed configuration.

- a. a connection bus (4) connecting said processors (1) and said cache memory units (2) (See figure 6: A system power controller microcontroller bus 610 is available for connecting the processors.), and
- b. a process list unit (3) connected to said connection line (4) for storing a process list of processes to be available for execution by said processors (1) (See figure 6: Instructions in memory are able to be passed through bus 610. Instructions in the memory is the claimed process list.), wherein
- c. said processors (1) are adapted for loading a global wake-up variable signaling process additions of processes to said process list into their associated cache memory unit (2) (See column 7, lines 43-45: A subsystem power controller is used.),
- d. for switching into a low-power mode if said process list contains no process for execution by said processors (1) (See column 14, lines 66-68: A Power Down signal is given and turns off specified parts of a system.) and
- e. for switching into a normal-power mode if said wake-up variable signals an addition of a process to said process list (See column 14, lines 39-42: A Power Up signal is given and turns on specified parts of the system.).

17. As per **claim 2**, Engel discloses wherein said processors (1) are adapted to switch into the normal-power mode if the wake-up variable held in the associated cache

memory units (2) is changed due to an addition of a process to said process list (See figure 17, column 13, line 67- column 14, line 18 and column 14, lines 39-42: An interface select number is given in an instruction to indicate what is to be turned on.).

18. As per **claim 3**, Engel discloses wherein said processors (1) are adapted to execute a store command on the wake-up variable when adding a process to said process list (See figures 17 & 18 and column 13, line 67- column 14, line 18: The interface select must be inherently stored in at least RAM so that mode will always be known.).

19. As per **claim 4**, Engel discloses wherein said processors (1) are adapted to send a request to other processors to drop the wake-up variable from their associated cache memory unit when adding a process to said process list (See column 14, lines 43-54).

20. As per **claim 6**, Engel discloses the limitations for reasoning similar to that of claim 1. A processor in the system can be found in figure 6.

21. As per **claim 7**, Engel discloses the limitations for reasoning similar to that of claims 1 & 2.

22. As per **claim 8**, Engel discloses the limitations for reasoning similar to that of claims 1-3.

23. As per **claim 10**, Engel discloses the limitations for reasoning similar to that of claims 7. Disclosure of the computer program stored in a computer readable medium can be found in column 9, lines 36-39.

24. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Engel in view of Culler et al (Parallel Computer Architecture: A Hardware/Software Approach), herein known as Culler.

25. As per **claim 5**, Engel discloses wherein said computer system as claimed in claim 1.

26. Engel does not teach the use of a cache coherence protocol.

27. Culler does teach a computer system which is adapted for implementing an invalidation based cache coherence protocol (See section 5.1 on pages 273-283).

28. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Engel to include the use of a cache coherence protocol. Cache coherence protocols are well known in the art and have been used in systems where memory is shared, which is the case in Engel (See figure 6: The two processors share a common memory). Some form of a cache coherence protocol must be used to maintain data integrity and ensure correct results will come from computations done by the processors in the system.



***Response to Arguments***

29. Applicant's arguments with respect to claims 1-8 and 10 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tonia L. Meonske whose telephone number is (571) 272-4170. The examiner can normally be reached on Monday-Friday with first Friday's off.

31. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alford Kindred can be reached on (571) 272-4037. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

32. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TLM

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A handwritten signature in cursive script, appearing to read "Tonia L. Meonske".

/Tonia L. Meonske/

Tonia L. Meonske

November 2, 2007

A handwritten signature in cursive script, appearing to read "Alford Kindred".

ALFORD KINDRED  
SUPERVISORY PATENT EXAMINER